

STACKABLE WIRE FRAME STORAGE BIN

5 BACKGROUND AND SUMMARY OF THE INVENTION

Wire frame bins are commonly used for storing items. These bins may or may not have a fabric bottom and sides. It is desirable to be able to stack these bins one on top of another once they are filled.

10 However, when this is done the frame must be configured such that the bottom of each bin projects slightly into the top of the next lower bin, in order to provide stability to the stack, and yet the bottom of each bin must not project too far into the top of the next lower

15 bin or the contents of the bin could be damaged. While there are numerous prior art storage bins which stack in this manner, many of them are configured to both stack and nest and all of them are relatively complex. As a result, they are also relatively expensive.

20 The subject invention provides an inexpensive storage bin which can be stacked one on top of another by providing a rectangular wire top element and a rectangular wire bottom element which will fit snugly into the top element. The top and bottom elements are

25 joined together by a plurality of side elements, with one side element extending between each corner of the top and bottom elements. The side elements may be releasably attached to the top and bottom elements to allow the bin to be collapsed so that it can be shipped flat. A fabric

30 cover may extend across the bottom element and between the side elements.

The foregoing and other objectives, features, and advantages of the invention will be more readily understood upon consideration of the following detailed

35 description of the invention, taken in conjunction with the accompanying drawings.

BRIEF DESCRIPTION OF THE SEVERAL VIEWS OF THE DRAWINGS

FIG. 1 is a perspective view, partially broken away to show hidden detail, of two storage bins embodying the subject invention, with one stacked in the other.

5 FIG. 2 is a fragmentary detail view showing how two of the frame elements of the subject invention interfit.

FIG. 3 is a perspective view, similar to FIG. 1 showing another embodiment of the invention.

10 FIG. 4 is a fragmentary detail view, similar to FIG. 2, of the embodiment shown in FIG. 3.

DETAILED DESCRIPTION OF THE PREFERRED EMBODIMENT

15 Referring now to FIG. 1 of the drawings, a storage bin 10 includes a frame 12 which preferably is made from a rigid metal wire. Preferably the wire is circular in cross-section and is plated to give it a smooth, aesthetically pleasing appearance. Storage bins
20 are commonly made from this type of wire which is well-known in the prior art. The frame 12 includes a rectangular top element 14, which defines the top of the bin, and a rectangular bottom element 16, which defines the bottom of the bin. The top and bottom elements are
25 joined together through side elements or legs 18, one of which is located at each corner at the top and bottom elements. The length and width of the bottom element are less than the respective length and width of the top element by an amount equal to or slightly more than twice
30 the thickness of the wire the frame elements are formed from. This allows the bottom element to fit snugly inside of the top element, FIG. 2. It also causes the side elements to be angled inwardly as they extend downwardly. Thus the bottom of one bin will fit into the
35 top of another bin, but the angled sides will prevent the upper bin from extending into the lower bin past the top element.

To ensure that the upper bin is not cocked, which would allow its bottom element to extend past the top element of a bin it is stacked on, corner elements 20 extend across each corner of the top element 14. The
5 corner elements are made from the same wire as the other frame elements and are attached to the bottom surface of the top element, by means such as welding.

Located on opposite sides of the top element are U-shaped handles 22. In practice the handles and the
10 sides of the top element that are located beside the handles are made from a first piece of wire formed into a rectangular shape, and the two sides of the top element that are adjacent to the handle are welded to the first piece of wire, as can be seen in FIG. 2.

15 In the embodiment illustrated the bottom of the bottom element 16 and the space between the side elements 18 are covered with a fabric cover 24 to allow items to be carried in the bin. However, instead of a fabric cover, wire cross bars (not shown) can extend across the
20 bottom element and between the top and bottom elements between the side elements, to create a bin that is made entirely from welded wire elements.

In an alternative embodiment of the invention, shown in FIGS. 3 and 4, the side elements are releasably
25 attached to the top and bottom elements in order to permit the bin to be taken apart. This permits the bins to be sold in relatively flat packages that can be hung one behind another in a retail store display. In the embodiment illustrated in FIG. 3, this is accomplished by
30 attaching short wire stubs 24 at the corners of the top and bottom elements 14 and 16 in place of the side elements 18. The stubs 14 project downwardly from the bottom surface of the top element and upwardly from the top surface of the bottom element in mating pairs which
35 extend toward one another.

Rods 26 having openings 28 in each end which slidably receive the studs extend between each mating

pair of studs to provide the side elements. In a preferred embodiment the stubs are made from the same wire as the top and bottom elements and the rods are hollow tubular cylinders having a slightly larger outside diameter than this wire.

As can be seen in the drawings, the frame 12 of the subject invention allows the bottom of one bin to be placed squarely and solidly into the top of the lower bin so that the bins can be stacked.

The terms and expressions which have been employed in the foregoing specification are used therein as terms of description and not of limitation, and there is no intention, in the use of such terms and expressions, of excluding equivalents of the features shown and described or portions thereof, it being recognized that the scope of the invention is defined and limited only by the claims which follow.